

WHAT IS CLAIMED IS:

1. A low temperature storage cabinet having a freezing cycle system composed of a compressor, a condenser, a throttle and an evaporator, a cabinet temperature sensor for detecting an inside temperature of the cabinet and for producing an electric signal indicative of the detected inside temperature, compressor control means responsive to the electric signal from said temperature sensor for activating the compressor in the freezing cycle system in response to rise of the inside temperature of the cabinet and for deactivating the compressor in response to a fall in the inside temperature of the cabinet, and an electric fan provided in the cabinet for circulating cooled air in the interior of the cabinet,

wherein the low temperature storage cabinet comprises:

refrigerant temperature detection means provided in the freezing cycle system to detect a temperature of refrigerant in the freezing cycle system; and

fan control means for controlling operation of said electric fan in the cabinet in accordance with a temperature of refrigerant detected by said detection means during deactivation of said compressor and for decreasing the rate of operation of said electric fan in accordance with a decrease of the refrigerant temperature.

6 2. A low temperature storage cabinet having a freezing cycle system composed of a compressor, a condenser, a throttle and an evaporator, a cabinet temperature sensor for detecting an inside temperature of the cabinet and for producing an electric signal indicative of the detected

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inside temperature, compressor control means responsive to the electric signal from said temperature sensor for activating the compressor in the freezing cycle system in response to rise of the inside temperature of the cabinet and for deactivating the compressor in response to a fall in the inside temperature of the cabinet, and an electric fan provided in the cabinet for circulating cooled air in the interior of the cabinet,

wherein the low temperature storage cabinet comprises:

refrigerant pressure detection means provided in the freezing cycle system to detect pressure of refrigerant in the freezing cycle system; and

fan control means for controlling operation of said electric fan in the cabinet in accordance with refrigerant pressure detected by said pressure detection means during deactivation of said compressor and for decreasing the rate of operation of said electric fan in accordance with a decrease of the refrigerant pressure.

7 8. A low temperature storage cabinet having a freezing cycle system composed of a compressor, a condenser, a throttle and an evaporator, a cabinet temperature sensor for detecting an inside temperature of the cabinet and for producing an electric signal indicative of the detected inside temperature, compressor control means responsive to the electric signal from said temperature sensor for activating the compressor in the freezing cycle system in response to rise of the inside temperature of the cabinet and for deactivating the compressor in response to a fall in the inside temperature of the cabinet, and an electric fan provided in the cabinet for circulating cooled air in the

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interior of the cabinet,

wherein the low temperature storage cabinet comprises:  
ambient temperature detection means provided on the  
cabinet to detect a temperature of outside air; and

fan control means for controlling operation of said  
electric fan in the cabinet in accordance with a temperature  
of outside air detected by said ambient temperature detec-  
tion means during deactivation of said compressor and for  
decreasing the rate of operation of said electric fan in  
accordance with a decrease of the temperature of outside  
air.

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4. A low temperature storage cabinet as claimed in  
Claim 1, wherein said fan control means comprises means for  
intermittently operating said electric fan in the cabinet  
during deactivation of said compressor and for changing the  
operation time and the stopping time of said electric fan to  
control the rate of operation of said electric fan in  
accordance with the refrigerant temperature.

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5. A low temperature storage cabinet as claimed in  
Claim 1, wherein said fan control means comprises means for  
selectively effecting continual operation of said electric  
fan or intermittent operation of said electric fan during  
deactivation of said compressor to control the rate of  
operation of said electric fan in accordance with the  
refrigerant temperature.

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6. A low temperature storage cabinet as claimed in Claim 1, wherein a plurality of electric fans are provided in the cabinet for circulating cooled air in the interior of the cabinet, and wherein said fan control means comprises means for selectively operating said electric fans during deactivation of said compressor to control the rate of operation of said electric fans in accordance with the refrigerant temperature.

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7. A low temperature storage cabinet as claimed in Claim 1, wherein said fan control means comprises means for controlling the rotation speed of said electric fan during deactivation of said compressor to control the rate of operation of said electric fan in accordance with the refrigerant temperature.

8. A low temperature storage cabinet having a freezing cycle system composed of a compressor, a condenser, a throttle and an evaporator, a cabinet temperature sensor for detecting an inside temperature of the cabinet and for producing an electric signal indicative of the detected inside temperature, temperature setting means for setting an inside temperature of the cabinet, compressor control means responsive to the electric signal from said cabinet temperature sensor for activating said compressor when the inside temperature of the cabinet rises in a nominal value more than an inside temperature set by said temperature setting means and for deactivating said compressor when the inside temperature of the cabinet falls in the nominal value less than the inside temperature set by said temperature setting means, and an electric fan provided in the cabinet

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for circulating cooled air in the interior of the cabinet,

wherein the low temperature storage cabinet comprises:

refrigerant temperature detection means provided in the freezing cycle system for detecting a temperature of refrigerant in the freezing cycle system;

first fan control means for operating said electric fan in the cabinet at a predetermined rate of operation during deactivation of said compressor when the inside temperature set by said temperature setting means is less than a predetermined temperature; and

second fan control means for decrease the rate of operation of said electric fan in accordance with a decrease of the refrigerant temperature detected by said refrigerant temperature detection means during deactivation of said compressor when the inside temperature set by said temperature setting means is more than the predetermined temperature.

9. A low temperature storage cabinet having a freezing cycle system composed of a compressor, a condenser, a throttle and an evaporator, cabinet temperature sensor for detecting an inside temperature of the cabinet and for producing an electric signal indicative of the detected inside temperature, temperature setting means for setting an inside temperature of the cabinet, compressor control means responsive to the electric signal from said cabinet temperature sensor for activating said compressor when the inside temperature of the cabinet rises in a nominal value more than an inside temperature set by said temperature setting means and for deactivating said compressor when the inside temperature of the cabinet falls in the nominal value

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less than the inside temperature set by said temperature setting means, and an electric fan provided in the cabinet for circulating cooled air in the interior of the cabinet.

wherein the low temperature storage cabinet comprises:

refrigerant pressure detection means provided in the freezing cycle system for detecting pressure of refrigerant in the freezing cycle system;

first fan control means for operating said electric fan in the cabinet at a predetermined rate of operation during deactivation when the inside temperature set by said temperature setting means is less than a predetermined temperature; and

second fan control means for decreasing the rate of operation of said electric fan in accordance with a decrease of the refrigerant pressure detected by said refrigerant pressure detection means during deactivation of said compressor when the inside temperature set by said temperature setting means is more than the predetermined temperature.

10. A low temperature storage cabinet having a freezing cycle system composed of a compressor, a condenser, a throttle and an evaporator, cabinet temperature sensor for detecting an inside temperature of the cabinet and for producing an electric signal indicative of the detected inside temperature, temperature setting means for setting an inside temperature of the cabinet, compressor control means responsive to the electric signal from said cabinet temperature sensor for activating said compressor when the inside temperature of the cabinet rises in a nominal value more than an inside temperature set by said

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temperature setting means and for deactivating said compressor when the inside temperature of the cabinet falls in the nominal value less than the inside temperature set by said temperature setting means, and an electric fan provided in the cabinet for circulating cooled air in the interior of the cabinet,

wherein the low temperature storage cabinet comprises:  
ambient temperature detection means for detecting a temperature of outside air;

first fan control means for operating said electric fan in the cabinet at a predetermined rate of operation during deactivation of said compressor when the inside temperature set by said temperature setting means is less than a predetermined temperature; and

second fan control means for decreasing the rate of operation of said electric fan in accordance with a decrease of the temperature of outside air detected by said ambient temperature detection means during deactivation of said compressor when the inside temperature set by said temperature setting means is more than the predetermined temperature.

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